



ST\_A181-08US Sequence Listing (Amended).txt  
SEQUENCE LISTING

<110> Japan Science and Technology Agency  
National Institute of Advanced Industrial Science and Technology

<120> Producing process of plants with sterility, plants produced by the process,  
and use thereof

<130> A181-08PCT

<150> JP 2004-2192  
<151> 2004-01-07

<150> JP 2004-93796  
<151> 2004-03-26

<150> JP 2004-221592  
<151> 2004-07-29

<150> JP 2004-231544  
<151> 2004-08-06

<160> 164

<170> PatentIn Ver. 2.1

<210> 1  
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<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 1  
Asp Leu Asp Leu Asn Leu Ala Pro Pro Met Glu Phe  
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<210> 2  
<211> 11  
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<220>  
<223> Description of Artificial Sequence:Artificially  
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Leu Asp Leu Asn Leu Ala Pro Pro Met Glu Phe  
1 5 10

<210> 3  
<211> 11  
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<213> Artificial Sequence

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<223> Description of Artificial Sequence:Artificially  
Page 1

JST\_A181-08US Sequence Listing (Amended).txt  
Synthesized Amino Acid Sequence

<400> 3  
Leu Asp Leu Asn Leu Ala Ala Ala Ala Ala Ala  
1 5 10

<210> 4  
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Synthesized Amino Acid Sequence

<400> 4  
Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala  
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Synthesized Amino Acid Sequence

<400> 5  
Asp Leu Glu Leu Arg Leu  
1 5

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Synthesized Amino Acid Sequence

<400> 6  
Leu Asp Leu Gln Leu Arg Leu Gly Tyr Tyr  
1 5 10

<210> 7  
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<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 7  
Leu Asp Leu Glu Leu Arg Leu  
1 5

JST\_A181-08US Sequence Listing (Amended).txt

<210> 8  
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 Leu Asp Leu Glu Leu Ala Ala Ala Ala Ala Ala  
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JST\_A181-08US Sequence Listing (Amended).txt  
Synthesized Amino Acid Sequence

<400> 12

Phe Asp Leu Asn Ile Pro Pro Ile Pro Glu Phe  
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<210> 13

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Phe Gln Phe Asp Leu Asn Phe Pro Pro Leu Asp Cys Val  
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<210> 14

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<400> 14

Asp Leu Asp Leu Arg Leu  
1 5

<210> 15

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Synthesized Amino Acid Sequence

<400> 15

Val Gly Pro Thr Val Ser Asp Ser Ser Ser Ala Val Glu Glu Asn Gln  
1 5 10 15

Tyr Asp Gly Lys Arg Gly Ile Asp Leu Asp Leu Asn Leu Ala Pro Pro  
20 25 30

Met Glu Phe  
35

<210> 16

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Synthesized Amino Acid Sequence

JST\_A181-08US Sequence Listing (Amended).txt

<400> 16

Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala  
1 5 10

<210> 17

<211> 12

<212> PRT

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<400> 17

Leu Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala  
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<210> 18

<211> 204

<212> PRT

<213> Arabidopsis thaliana

<400> 18

Met Glu Arg Ser Asn Ser Ile Glu Leu Arg Asn Ser Phe Tyr Gly Arg  
1 5 10 15

Ala Arg Thr Ser Pro Trp Ser Tyr Gly Asp Tyr Asp Asn Cys Gln Gln  
20 25 30

Asp His Asp Tyr Leu Leu Gly Phe Ser Trp Pro Pro Arg Ser Tyr Thr  
35 40 45

Cys Ser Phe Cys Lys Arg Glu Phe Arg Ser Ala Gln Ala Leu Gly Gly  
50 55 60

His Met Asn Val His Arg Arg Asp Arg Ala Arg Leu Arg Leu Gln Gln  
65 70 75 80

Ser Pro Ser Ser Ser Ser Thr Pro Ser Pro Pro Tyr Pro Asn Pro Asn  
85 90 95

Tyr Ser Tyr Ser Thr Met Ala Asn Ser Pro Pro Pro His His Ser Pro  
100 105 110

Leu Thr Leu Phe Pro Thr Leu Ser Pro Pro Ser Ser Pro Arg Tyr Arg  
115 120 125

Ala Gly Leu Ile Arg Ser Leu Ser Pro Lys Ser Lys His Thr Pro Glu  
130 135 140

Asn Ala Cys Lys Thr Lys Lys Ser Ser Leu Leu Val Glu Ala Gly Glu  
145 150 155 160

Ala Thr Arg Phe Thr Ser Lys Asp Ala Cys Lys Ile Leu Arg Asn Asp  
165 170 175

Glu Ile Ile Ser Leu Glu Leu Glu Ile Gly Leu Ile Asn Glu Ser Glu  
180 185 190

Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala

195

<210> 19  
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<400> 19  
Asn Asp Glu Ile Ile Ser Leu Glu Leu Glu Ile Gly Leu Ile Asn Glu  
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Ser Glu Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala  
20 25 30

<210> 20  
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Synthesized Amino Acid Sequence

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Asp Leu Asn Leu Arg Leu  
1 5

<210> 21  
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<400> 21  
Asp Leu Asp Leu Arg Leu  
1 5

<210> 22  
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Synthesized Amino Acid Sequence

<400> 22  
Asp Leu Gln Leu Arg Leu  
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<210> 23  
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JST\_A181-08US Sequence Listing (Amended).txt

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 23

Asp Leu Arg Leu Arg Leu  
1 5

<210> 24

<211> 6

<212> PRT

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Synthesized Amino Acid Sequence

<400> 24

Glu Leu Glu Leu Arg Leu  
1 5

<210> 25

<211> 6

<212> PRT

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<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 25

Asn Leu Glu Leu Arg Leu  
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<210> 26

<211> 6

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<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 26

Gln Leu Glu Leu Arg Leu  
1 5

<210> 27

<211> 6

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 27

Asp Leu Glu Leu Asn Leu  
1 5

JST\_A181-08US Sequence Listing (Amended).txt

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Asp Leu Glu Leu Gln Leu  
1 5  
  
<210> 29  
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Thr Leu Glu Leu Arg Leu  
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<210> 30  
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Asp Leu Glu Leu Thr Leu  
1 5  
  
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Ser Leu Glu Leu Arg Leu  
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JST\_A181-08US Sequence Listing (Amended).txt

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Synthesized Amino Acid Sequence

<400> 32

Asp Leu Glu Leu Ser Leu  
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<211> 6

<212> PRT

<213> Artificial Sequence

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<400> 33

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1 5

<210> 34

<211> 6

<212> PRT

<213> Artificial Sequence

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<400> 34

Asp Leu Ser Leu Arg Leu  
1 5

<210> 35

<211> 6

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 35

Asp Leu His Leu Arg Leu  
1 5

<210> 36

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 36

Asp Leu Glu Phe Arg Leu  
1 5

JST\_A181-08US Sequence Listing (Amended).txt

<210> 37  
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Synthesized Amino Acid Sequence

<400> 37  
Asp Phe Glu Leu Arg Leu  
1 5

<210> 38  
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Synthesized Amino Acid Sequence

<400> 38  
Ser Leu Asp Leu His Leu  
1 5

<210> 39  
<211> 6  
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Synthesized Amino Acid Sequence

<400> 39  
Asp Leu Thr Leu Lys Leu  
1 5

<210> 40  
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Synthesized Amino Acid Sequence

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Asp Leu Ser Leu Lys Leu  
1 5

<210> 41  
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JST\_A181-08US Sequence Listing (Amended).txt

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Synthesized Amino Acid Sequence

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Leu Asp Leu Asn Leu  
1 5

<210> 42

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 42

Leu Asp Leu Glu Leu  
1 5

<210> 43

<211> 5

<212> PRT

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Synthesized Amino Acid Sequence

<400> 43

Phe Asp Leu Asn Phe  
1 5

<210> 44

<211> 5

<212> PRT

<213> Artificial Sequence

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Synthesized Amino Acid Sequence

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Phe Asp Leu Asn Ile  
1 5

<210> 45

<211> 4

<212> PRT

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Synthesized Amino Acid Sequence

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Phe Asp Leu Asn  
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JST\_A181-08US Sequence Listing (Amended).txt

<210> 46  
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Synthesized Amino Acid Sequence

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Leu Asp Leu Glu Leu Arg Leu  
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<210> 47  
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<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 47  
Leu Asp Leu Gln Leu Arg Leu  
1 5

<210> 48  
<211> 7  
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Synthesized Amino Acid Sequence

<400> 48  
Leu Asp Leu Asp Leu Arg Leu  
1 5

<210> 49  
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Synthesized Amino Acid Sequence

<400> 49  
Asp Leu Asp Leu Glu Leu Arg Leu  
1 5

<210> 50  
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JST\_A181-08US Sequence Listing (Amended).txt

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Synthesized Amino Acid Sequence

<400> 50

Asp Leu Asp Leu Gln Leu Arg Leu  
1 5

<210> 51

<211> 8

<212> PRT

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Synthesized Amino Acid Sequence

<400> 51

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1 5

<210> 52

<211> 9

<212> PRT

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Synthesized Amino Acid Sequence

<400> 52

Leu Asp Leu Asp Leu Glu Leu Arg Leu  
1 5

<210> 53

<211> 9

<212> PRT

<213> Artificial Sequence

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Synthesized Amino Acid Sequence

<400> 53

Leu Asp Leu Asp Leu Gln Leu Arg Leu  
1 5

<210> 54

<211> 9

<212> PRT

<213> Artificial Sequence

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Synthesized Amino Acid Sequence

<400> 54

Leu Asp Leu Asp Leu Asp Leu Arg Leu  
1 5

JST\_A181-08US Sequence Listing (Amended).txt

<210> 55  
 <211> 6  
 <212> PRT  
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 Asp Leu Gln Leu Arg Leu  
 1 5

<210> 56  
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<400> 56  
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<210> 57  
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 <212> DNA  
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<400> 57  
 aaattccata ggtggagcaa ggttaagatc aagatc 36

<210> 58  
 <211> 33  
 <212> DNA  
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<220>  
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<400> 58  
 cttgatctta accttgctcc acctatggaa ttt 33

<210> 59  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

JST\_A181-08US Sequence Listing (Amended).txt

<400> 59  
aaattccata ggtggagcaa ggttaagatc aag 33

<210> 60  
<211> 33  
<212> DNA  
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<210> 61  
<211> 33  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 61  
agcagcagca gcagcagcaa ggttaagatc aag 33

<210> 62  
<211> 30  
<212> DNA  
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Synthesized DNA Sequence

<400> 62  
ctggatctag aactccgttt gggtttcgct 30

<210> 63  
<211> 30  
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<223> Description of Artificial Sequence:Artificially  
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<400> 63  
agcgaaaccc aaacggagtt ctagatccag 30

<210> 64  
<211> 18  
<212> DNA  
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<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

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gatctagaac tccgtttg 18

<210> 65  
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<212> DNA  
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Synthesized DNA Sequence

<400> 65  
caaacggagt tctagatc 18

<210> 66  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 66  
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<210> 67  
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<212> DNA  
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Synthesized DNA Sequence

<400> 67  
gtaataaccc aaacggagtt gtagatccag 30

<210> 68  
<211> 21  
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<220>  
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Synthesized DNA Sequence

<400> 68  
ctggatctag aactccgttt g 21

<210> 69  
<211> 21  
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<213> Artificial Sequence



JST\_A181-08US Sequence Listing (Amended).txt

<220>  
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 caaacggagt tctagatcca g 21

<210> 70  
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<220>  
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 ctggatctag aactcgctgc cgcagcggct gca 33

<210> 71  
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<210> 72  
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<220>  
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<400> 72  
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<210> 73  
 <211> 30  
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<220>  
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<210> 74  
 <211> 24

JST\_A181-08US Sequence Listing (Amended).txt

<212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 74  
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<210> 75  
 <211> 24  
 <212> DNA  
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<220>  
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 Synthesized DNA Sequence

<400> 75  
 acccaaacgg agttctagat ccag 24

<210> 76  
 <211> 33  
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<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 76  
 ttcgatctta attttgcacc gttggattgt gtt 33

<210> 77  
 <211> 33  
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 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 77  
 aacacaatcc aacggtgcaa aattaagatc gaa 33

<210> 78  
 <211> 33  
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 <213> Artificial Sequence

<220>  
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 Synthesized DNA Sequence

<400> 78  
 tttagacctca acatccctcc gatccctgaa ttc 33

JST\_A181-08US Sequence Listing (Amended).txt

<210> 79  
 <211> 33  
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<210> 80  
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 <400> 80  
 tttcaattcg atcttaattt tccaccgttg gattgtgtt 39

<210> 81  
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 aacacaatcc aacggtggaa aattaagatc gaattgaaa 39

<210> 82  
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 <400> 82  
 gatctagatc tccgtttg 18

<210> 83  
 <211> 18  
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 Synthesized DNA Sequence  
 <400> 83  
 caaacggaga tctagatc 18

JST\_A181-08US Sequence Listing (Amended).txt

<210> 84  
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<220>  
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 Synthesized DNA Sequence

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 gtgggtccta ctgtgtcgga ctcgtcctct gcagtggaag agaaccaata tgatgggaaa 60  
 agaggaattg atcttgatct taaccttgct ccacctatgg aattt 105

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 aaattccata ggtggagcaa ggtaagatc aagatcaatt cctcttttcc catcatattg 60  
 gttctcttcc actgcagagg acgagtccga cacagtagga cccac 105

<210> 86  
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 <223> Description of Artificial Sequence:Artificially  
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<400> 86  
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<210> 87  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
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<400> 87  
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<210> 88  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially

JST\_A181-08US Sequence Listing (Amended).txt  
Synthesized DNA Sequence

<400> 88  
cttgatctgg atctagaact ccgtttgggg ttcgct 36

<210> 89  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 89  
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<210> 90  
<211> 615  
<212> DNA  
<213> Arabidopsis thaliana

<400> 90  
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tcatggccac caagatccta cacttgcagc ttctgcaaaa gggaattcag atcggctcaa 180  
gcacttggtg gccacatgaa tgttcacaga agagacagag caagactcag attacaacag 240  
tctccatcat catcttcaac accttctcct ccttacccta accctaatta ctcttactca 300  
accatggcaa acttctctcc tcctcatcat tctcctctaa ccctatttcc aaccctttct 360  
cctccatcct caccaagata tagggcaggt ttgatccgtt ccttgagccc caagtcaaaa 420  
catacaccag aaaacgcttg taagactaag aaatcatctc ttttagtgga ggctggagag 480  
gtacaagggt tcaccagtaa agatgcttgc aagatcctga ggaatgatga aatcatcagc 540  
ttggagcttg agattggttt gattaacgaa tcagagcaag atctggatct agaactccgt 600  
ttgggtttcg cttaa 615

<210> 91  
<211> 93  
<212> DNA  
<213> Arabidopsis thaliana

<400> 91  
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ctggatctag aactccgttt gggtttcgct taa 93

<210> 92  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 92  
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<210> 93  
<211> 18

JST\_A181-08US Sequence Listing (Amended).txt

<212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
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<400> 93  
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<210> 94  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
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<400> 94  
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<210> 95  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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<210> 96  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
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<400> 96  
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<210> 97  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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 Synthesized DNA Sequence

<400> 97  
 cagacggagc tgtagatc 18

JST\_A181-08US Sequence Listing (Amended).txt

<210> 98  
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 <210> 99  
 <211> 18  
 <212> DNA  
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 <220>  
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 <210> 100  
 <211> 18  
 <212> DNA  
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 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
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 <210> 101  
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 <210> 102  
 <211> 18  
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 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 <400> 102  
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JST\_A181-08US Sequence Listing (Amended).txt

<210> 103  
 <211> 18  
 <212> DNA  
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 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 <210> 104  
 <211> 18  
 <212> DNA  
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 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 104  
 cagctagaac tccgtttg 18  
  
 <210> 105  
 <211> 18  
 <212> DNA  
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 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 105  
 caaacggagt tctagctg 18  
  
 <210> 106  
 <211> 18  
 <212> DNA  
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 Synthesized DNA Sequence  
  
 <400> 106  
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 <210> 107  
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 Synthesized DNA Sequence



JST\_A181-08US Sequence Listing (Amended).txt

<400> 107  
caagttgagt tctagatc 18

<210> 108  
<211> 18  
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Synthesized DNA Sequence

<400> 108  
gatctagaac tccagttg 18

<210> 109  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 109  
caactggagt tctagatc 18

<210> 110  
<211> 18  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 110  
acgcttgaat taagactc 18

<210> 111  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 111  
gagtcctaat tcaagcgt 18

<210> 112  
<211> 18  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence:Artificially

JST\_A181-08US Sequence Listing (Amended).txt  
Synthesized DNA Sequence

<400> 112  
gatcttgaat taacgctc 18

<210> 113  
<211> 18  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 113  
gagcgттаат tcaagatc 18

<210> 114  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 114  
agccttgaat taagactc 18

<210> 115  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 115  
gagtcttaat tcaaggct 18

<210> 116  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 116  
gatcttgaat taagcctc 18

<210> 117  
<211> 18  
<212> DNA  
<213> Artificial Sequence

JST\_A181-08US Sequence Listing (Amended).txt

<220>  
 <223> Description of Artificial Sequence:Artificially  
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<400> 117  
 gaggcttaat tcaagatc 18

<210> 118  
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 <212> DNA  
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<220>  
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 Synthesized DNA Sequence

<400> 118  
 gatcttacct taagactc 18

<210> 119  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 119  
 gagtcttaag gtaagatc 18

<210> 120  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 120  
 gatcttagct taagactc 18

<210> 121  
 <211> 18  
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 <213> Artificial Sequence

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<210> 122  
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<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 122

gatcttcact taagactc

18

<210> 123

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 123

gagtcttaag tgaagatc

18

<210> 124

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 124

gatctcgaat ttcgtctc

18

<210> 125

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 125

gagacgaaat tcgagatc

18

<210> 126

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 126

gatttcgaac tacgtctc

18

<210> 127

JST\_A181-08US Sequence Listing (Amended).txt

<211> 18  
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 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 <400> 127  
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 <210> 128  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
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 Synthesized Primer Sequence  
  
 <400> 128  
 tcgcttgatc tacacctg 18  
  
 <210> 129  
 <211> 18  
 <212> DNA  
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 Synthesized DNA Sequence  
  
 <400> 129  
 caggtgtaga tcaagcga 18  
  
 <210> 130  
 <211> 18  
 <212> DNA  
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 Synthesized DNA Sequence  
  
 <400> 130  
 gatcttacgc taaagctg 18  
  
 <210> 131  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 131  
 cagctttagc gtaagatc 18

JST\_A181-08US Sequence Listing (Amended).txt

<210> 132  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 132  
gatcttagcc taaagctg

18

<210> 133  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 133  
cagctttagg ctaagatc

18

<210> 134  
<211> 232  
<212> PRT  
<213> Arabidopsis thaliana

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1 5 10 15  
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala  
20 25 30  
His Glu Leu Thr Val Leu Cys Asp Ala Arg Val Ser Ile Ile Met Phe  
35 40 45  
Ser Ser Ser Asn Lys Leu His Glu Tyr Ile Ser Pro Asn Thr Thr Thr  
50 55 60  
Lys Glu Ile Val Asp Leu Tyr Gln Thr Ile Ser Asp Val Asp Val Trp  
65 70 75 80  
Ala Thr Gln Tyr Glu Arg Met Gln Glu Thr Lys Arg Lys Leu Leu Glu  
85 90 95  
Thr Asn Arg Asn Leu Arg Thr Gln Ile Lys Gln Arg Leu Gly Glu Cys  
100 105 110  
Leu Asp Glu Leu Asp Ile Gln Glu Leu Arg Arg Leu Glu Asp Glu Met  
115 120 125  
Glu Asn Thr Phe Lys Leu Val Arg Glu Arg Lys Phe Lys Ser Leu Gly  
130 135 140  
Asn Gln Ile Glu Thr Thr Lys Lys Lys Asn Lys Ser Gln Gln Asp Ile  
145 150 155 160  
Gln Lys Asn Leu Ile His Glu Leu Glu Leu Arg Ala Glu Asp Pro His  
165 170 175  
Tyr Gly Leu Val Asp Asn Gly Gly Asp Tyr Asp Ser Val Leu Gly Tyr  
180 185 190  
Gln Ile Glu Gly Ser Arg Ala Tyr Ala Leu Arg Phe His Gln Asn His  
195 200 205  
His His Tyr Tyr Pro Asn His Gly Leu His Ala Pro Ser Ala Ser Asp  
210 215 220  
Ile Ile Thr Phe His Leu Leu Glu  
225 230

JST\_A181-08US Sequence Listing (Amended).txt

<210> 135  
 <211> 699  
 <212> DNA  
 <213> Arabidopsis thaliana

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 tattcaaaga gaagaaatgg ttatttcaag aaagcacatg agctcacggt ttgtgtgat 120  
 gctagggttt cgattatcat gttctctagc tccaacaagc ttcattgagta tatcagccct 180  
 aacaccacaa cgaaggagat cgtagatctg taccaaaacta tttctgatgt cgatgittgg 240  
 gccactcaat atgagcgaat gcaagaaacc aagaggaaac tgttggagac aaatagaaat 300  
 ctccggactc agatcaagca gaggctagggt gagtgtttgg acgagcttga cattcaggag 360  
 ctgcgtcgtc ttgaggatga aatggaaaac actttcaaac tcgttcgcga gcgcaagttc 420  
 aaatctcttg ggaatcagat cgagaccacc aagaaaaaga acaaaagtca acaagacata 480  
 caaaagaatc tcatacatga gctggaacta agagctgaag atcctcacta tggactagta 540  
 gacaatggag gagattacga ctgagttctt ggataccaaa tcgaagggtc acgtgcttac 600  
 gctcttcgtt tccaccagaa ccatcaccac tattacccca accatggcct tcatgcaccc 660  
 tctgcctctg acatcattac cttccatctt ctgaataa 699

<210> 136  
 <211> 365  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 136  
 Met Met Ser Lys Ser Met Ser Ile Ser Val Asn Gly Gln Ser Gln Val  
 1 5 10 15  
 Pro Pro Gly Phe Arg Phe His Pro Thr Glu Glu Glu Leu Leu Gln Tyr  
 20 25 30  
 Tyr Leu Arg Lys Lys Val Asn Ser Ile Glu Ile Asp Leu Asp Val Ile  
 35 40 45  
 Arg Asp Val Asp Leu Asn Lys Leu Glu Pro Trp Asp Ile Gln Glu Met  
 50 55 60  
 Cys Lys Ile Gly Thr Thr Pro Gln Asn Asp Trp Tyr Phe Phe Ser His  
 65 70 75 80  
 Lys Asp Lys Lys Tyr Pro Thr Gly Thr Arg Thr Asn Arg Ala Thr Ala  
 85 90 95  
 Ala Gly Phe Trp Lys Ala Thr Gly Arg Asp Lys Ile Ile Tyr Ser Asn  
 100 105 110  
 Gly Arg Arg Ile Gly Met Arg Lys Thr Leu Val Phe Tyr Lys Gly Arg  
 115 120 125  
 Ala Pro His Gly Gln Lys Ser Asp Trp Ile Met His Glu Tyr Arg Leu  
 130 135 140  
 Asp Asp Asn Ile Ile Ser Pro Glu Asp Val Thr Val His Glu Val Val  
 145 150 155 160  
 Ser Ile Ile Gly Glu Ala Ser Gln Asp Glu Gly Trp Val Val Cys Arg  
 165 170 175  
 Ile Phe Lys Lys Lys Asn Leu His Lys Thr Leu Asn Ser Pro Val Gly  
 180 185 190

JST\_A181-08US Sequence Listing (Amended).txt

Gly Ala Ser Leu Ser Gly Gly Gly Asp Thr Pro Lys Thr Thr Ser Ser  
195 200 205

Gln Ile Phe Asn Glu Asp Thr Leu Asp Gln Phe Leu Glu Leu Met Gly  
210 215 220

Arg Ser Cys Lys Glu Glu Leu Asn Leu Asp Pro Phe Met Lys Leu Pro  
225 230 235 240

Asn Leu Glu Ser Pro Asn Ser Gln Ala Ile Asn Asn Cys His Val Ser  
245 250 255

Ser Pro Asp Thr Asn His Asn Ile His Val Ser Asn Val Val Asp Thr  
260 265 270

Ser Phe Val Thr Ser Trp Ala Ala Leu Asp Arg Leu Val Ala Ser Gln  
275 280 285

Leu Asn Gly Pro Thr Ser Tyr Ser Ile Thr Ala Val Asn Glu Ser His  
290 295 300

Val Gly His Asp His Leu Ala Leu Pro Ser Val Arg Ser Pro Tyr Pro  
305 310 315 320

Ser Leu Asn Arg Ser Ala Ser Tyr His Ala Gly Leu Thr Gln Glu Tyr  
325 330 335

Thr Pro Glu Met Glu Leu Trp Asn Thr Thr Thr Ser Ser Leu Ser Ser  
340 345 350

Ser Pro Gly Pro Phe Cys His Val Ser Asn Gly Ser Gly  
355 360 365

<210> 137  
<211> 1098  
<212> DNA  
<213> Arabidopsis thaliana

<400> 137  
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aggtttcatc cgaccgagga agagctgttg cagtattatc tccggaagaa agttaatagc 120  
atcgagatcg atcttgatgt cattcgcgac gttgatctca acaagctcga gccttgggac 180  
attcaagaga tgtgtaaaat aggaacaacg ccacaaaacg actggtatit ctttagccac 240  
aaggacaaaa aatatccgac gggaacgaga actaacagag cactgcggc tggattttgg 300  
aaagcaactg gccgcgacaa gatcatatat agcaatggcc gtagaattgg gatgagaaag 360  
actcttggtt tctacaaagg ccgagctcct cacggccaaa aatctgattg gatcatgcat 420  
gaatatagac tcgatgacaa cattatttcc cccgaggatg tcaccgttca tgaggtcgtg 480  
agtattatag gggaagcatc acaagacgaa ggatgggtgg tgtgtcgtat tttcaagaag 540  
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gatacgccga agacgacatc atctcagatc ttcaacgagg atactctcga ccaatttctt 660  
gaacttatgg ggagatcttg taaagaagag ctaaactctt accctttcat gaaactccca 720  
aacctcgaaa gccctaacag tcaggcaatc aacaactgcc acgtaagctc tcccgacact 780  
aatcataata tccacgtcag caacgtggtc gacactagct ttgttactag ctgggcggct 840  
ttagaccgcc tcgtggcctc gcagcttaac ggaccacat catattcaat tacagccgtc 900  
aatgagagcc acgtgggcca tgatcatctc gctttgcctt ccgtccgac tccgtacccc 960  
agcctaaacc ggtccgcttc gtaccacgcc ggtttaacac aggaatatac accggagatg 1020  
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tcgaatggta gtggataa 1098

<210> 138



JST\_A181-08US Sequence Listing (Amended).txt

<211> 367

<212> PRT

<213> Arabidopsis thaliana

<400> 138

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Met Gly His His Ser Cys Cys Asn Lys Gln Lys Val Lys Arg Gly Leu
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Gly His Gly Cys Trp Ser Ser Val Pro Lys His Ala Gly Thr Tyr Thr
          35          40          45
His Ile His Gly Phe Cys Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu
          50          55          60
Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Ser Phe Ser
          65          70          75          80
Pro Gln Glu Ala Ala Leu Ile Ile Glu Leu His Ser Ile Leu Gly Asn
          85          90          95
Arg Trp Ala Gln Ile Ala Lys His Leu Pro Gly Arg Thr Asp Asn Glu
          100          105          110
Val Lys Asn Phe Trp Asn Ser Ser Ile Lys Lys Lys Leu Met Ser His
          115          120          125
His His His Gly His His His His His Leu Ser Ser Met Ala Ser Leu
          130          135          140
Leu Thr Asn Leu Pro Tyr His Asn Gly Phe Asn Pro Thr Thr Val Asp
          145          150          155          160
Asp Glu Ser Ser Arg Phe Met Ser Asn Ile Ile Thr Asn Thr Asn Pro
          165          170          175
Asn Phe Ile Thr Pro Ser His Leu Ser Leu Pro Ser Pro His Val Met
          180          185          190
Thr Pro Leu Met Phe Pro Thr Ser Arg Glu Gly Asp Phe Lys Phe Leu
          195          200          205
Thr Thr Asn Asn Pro Asn Gln Ser His His His Asp Asn Asn His Tyr
          210          215          220
Asn Asn Leu Asp Ile Leu Ser Pro Thr Pro Thr Ile Asn Asn His His
          225          230          235          240
Gln Pro Ser Leu Ser Ser Cys Pro His Asp Asn Asn Leu Gln Trp Pro
          245          250          255
Ala Leu Pro Asp Phe Pro Ala Ser Thr Ile Ser Gly Phe Gln Glu Thr
          260          265          270
Leu Gln Asp Tyr Asp Asp Ala Asn Lys Leu Asn Val Phe Val Thr Pro
          275          280          285
Phe Asn Asp Asn Ala Lys Lys Leu Leu Cys Gly Glu Val Leu Glu Gly
          290          295          300
Lys Val Leu Ser Ser Ser Ser Pro Ile Ser Gln Asp His Gly Leu Phe

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## JST\_A181-08US Sequence Listing (Amended).txt

305 310 315 320

Leu Pro Thr Thr Tyr Asn Phe Gln Met Thr Ser Thr Ser Asp His Gln  
325 330 335

His His His Arg Val Asp Ser Tyr Ile Asn His Met Ile Ile Pro Ser  
340 345 350

Ser Ser Ser Ser Ser Pro Ile Ser Cys Gly Gln Tyr Val Ile Thr  
355 360 365

<210> 139

<211> 1104

<212> DNA

<213> Arabidopsis thaliana

<400> 139

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cctaaacatg	caggcactta	tacacatata	catgggtttt	gtttgcagag	atgtggaaag	180
agttgtagat	taagatggat	aaattatcta	agacctgac	ttaaactgtg	aagcttctct	240
cctcaagaag	ctgctcttat	cattgagctt	cacagcattc	ttggtaacag	atgggctcaa	300
attgctaaac	atctacctgg	aagaacagat	aacgagggtca	agaatttctg	gaactcgagc	360
attaaaaaga	agctcatgtc	tcacatcat	cacggtcatc	atcatcatca	tctctcttcc	420
atggcgagtt	tgctcacaaa	ccttccttat	cacaatggat	tcaaccctac	tacagtcgac	480
gatgaaagtt	caagattcat	gtccaatatc	atcacaaaca	ctaaccctaa	tttcatcact	540
ccaagccatc	tctctcttcc	ttctcctcat	gttatgaccc	cattgatgtt	ccaacctct	600
agagaaggag	atttcaagtt	tctaaccaca	aacaacccaa	accaatctca	tcacatgat	660
aataaccatt	acaacaacct	cgacattttg	tcacccacac	caactataaa	caatcatcat	720
caaccttcac	tttcttcttg	tcctcatgat	aataatctcc	aatggccagc	gttaccagat	780
ttcccagcga	gtaccatttc	tggtttccaa	gaaacccttc	aagattatga	tgatgctaata	840
aaactcaacg	tgtttgtagac	accattcaac	gataatgcc	aaaagttatt	atgtggagaa	900
gttctcgaag	gcaaagtact	atcttctctc	tcaccaattt	cacaagatca	cggccttttt	960
cttcccacca	cgtacaactt	tcaaagtact	tctacgagtg	atcatcaaca	tcatcatcga	1020
gtggactcat	acatcaatca	catgatcata	ccatcatcat	cctcatcgtc	gccaatctct	1080
tgtggacagt	acgtcataac	ttaa				1104

<210> 140

<211> 253

<212> PRT

<213> Arabidopsis thaliana

<400> 140

Met	Thr	Ala	Tyr	Gln	Ser	Glu	Leu	Gly	Gly	Asp	Ser	Ser	Pro	Leu	Arg
1				5					10					15	
Lys	Ser	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Glu	Asn	Thr	Thr
		20					25						30		
Asn	Arg	Gln	Val	Thr	Phe	Cys	Lys	Arg	Arg	Asn	Gly	Leu	Leu	Lys	Lys
		35					40					45			
Ala	Tyr	Glu	Leu	Ser	Val	Leu	Cys	Asp	Ala	Glu	Val	Ala	Leu	Ile	Val
	50					55				60					
Phe	Ser	Ser	Arg	Gly	Arg	Leu	Tyr	Glu	Tyr	Ser	Asn	Asn	Ser	Val	Lys
65				70				75						80	
Gly	Thr	Ile	Glu	Arg	Tyr	Lys	Lys	Ala	Ile	Ser	Asp	Asn	Ser	Asn	Thr
			85					90						95	

JST\_A181-08US Sequence Listing (Amended).txt

Gly Ser Val Ala Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala  
100 105 110  
Lys Leu Arg Gln Gln Ile Ile Ser Ile Gln Asn Ser Asn Arg Gln Leu  
115 120 125  
Met Gly Glu Thr Ile Gly Ser Met Ser Pro Lys Glu Leu Arg Asn Leu  
130 135 140  
Glu Gly Arg Leu Glu Arg Ser Ile Thr Arg Ile Arg Ser Lys Lys Asn  
145 150 155 160  
Glu Leu Leu Phe Ser Glu Ile Asp Tyr Met Gln Lys Arg Glu Val Asp  
165 170 175  
Leu His Asn Asp Asn Gln Ile Leu Arg Ala Lys Ile Ala Glu Asn Glu  
180 185 190  
Arg Asn Asn Pro Ser Ile Ser Leu Met Pro Gly Gly Ser Asn Tyr Glu  
195 200 205  
Gln Leu Met Pro Pro Pro Gln Thr Gln Ser Gln Pro Phe Asp Ser Arg  
210 215 220  
Asn Tyr Phe Gln Val Ala Ala Leu Gln Pro Asn Asn His His Tyr Ser  
225 230 235 240  
Ser Ala Gly Arg Gln Asp Gln Thr Ala Leu Gln Leu Val  
245 250

<210> 141  
<211> 762  
<212> DNA  
<213> Arabidopsis thaliana

<400> 141  
atgacggcgt accaatcggg gctaggagga gattcctctc ccttgaggaa atctgggaga 60  
ggaaagatcg aaatcaaacg gatcgagaac acaacgaatc gtcaagtcac tttttgcaa 120  
cgtagaaatg gtttgctcaa gaaagcttac gagctctctg ttctttgtga tgctgaagtc 180  
gcactcatcg tcttctctag ccgtggctcg ctctatgagt actctaaca cagtgtaaaa 240  
gggactattg agaggtacaa gaaggcaata tcggacaatt ctaacaccgg atcgggtggca 300  
gaaattaatg cacagtatta tcaacaagaa tcagccaaat tgcgtcaaca aataatcagc 360  
atacaaaact ccaacaggca attgatgggt gagacgatag ggtcaatgtc tcccaaagag 420  
ctcaggaact tggaggcag attagagaga agtattacc gaatccgatc caagaagaat 480  
gagctcttat tttctgaaat cgactacatg cagaaaagag aagttgattt gcataacgat 540  
aaccagattc ttcgtgcaaa gatagctgaa aatgagagga acaatccgag tataagtcta 600  
atgccaggag gatctaacta cgagcagctt atgccaccac ctcaaacgca atctcaaccg 660  
tttgattcac ggaattattt ccaagtcgcg gcattgcaac ctaacaatca ccattactca 720  
tccgcgggtc gccaaagacca aaccgctctc cagttagtgt aa 762

<210> 142  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 142  
agttagttac ttaagcttgg gcccc

JST\_A181-08US Sequence Listing (Amended).txt

<210> 143  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence  
  
 <400> 143  
 gatccagtaa gcttaattgg ttccggcgcc 30  
  
 <210> 144  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence  
  
 <400> 144  
 tagaattcgc ggccgcactc gag 23  
  
 <210> 145  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence  
  
 <400> 145  
 gagaattcgg gccagagctg cagctggatg g 31  
  
 <210> 146  
 <211> 82  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 <400> 146  
 ctagaggatc cacaattacc aacaacaaca aacaacaaac aacattacaa ttacagatcc 60  
 cgggggtacc gtcgacgagc tc 82  
  
 <210> 147  
 <211> 73  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

JST\_A181-08US Sequence Listing (Amended).txt

<400> 147  
cgtcgacggt acccccggga tctgtaattg taatgttggt tgttgttgt tgttgttggt 60  
aattgtggat cct 73

<210> 148  
<211> 43  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 148  
gggcttgatc tggatctaga actccgtttg gggttcgctt aag 43

<210> 149  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 149  
tcgacttaag cgaaacccaa acggagtctt agatccagat caagccc 47

<210> 150  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 150  
atgaccgcgt accaatcgga gctaggagg 29

<210> 151  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 151  
cactaactgg agagcggttt ggtcttggcg 30

<210> 152  
<211> 6  
<212> PRT  
<213> Artificial Sequence

JST\_A181-08US Sequence Listing (Amended).txt

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 152

Asp Leu Ser Leu Asp Leu  
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<210> 153

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 153

gatccttagcc taagcctg

18

<210> 154

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 154

caggcttagg ctaagatc

18

<210> 155

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 155

gatgatgtca aaatctatga gcatatc

27

<210> 156

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 156

tccactacca ttcgacacgt gac

23

<210> 157

<211> 30

JST\_A181-08US Sequence Listing (Amended).txt

<212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence  
 <400> 157  
 gatgggtcat cactcatgct gcaacaagca 30

<210> 158  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 <400> 158  
 agttatgacg tactgtccac aagagattgg 30

<210> 159  
 <211> 75  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
 <400> 159  
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 taccgtcgac gagct 75

<210> 160  
 <211> 67  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
 <400> 160  
 cgtcgacggt acccccggga tctgtaattg taatgttggt tggtgtttgt tggtgttggt 60  
 aattgtg 67

<210> 161  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
 <400> 161  
 gatggcgaga gggaagatcc agatcaag 28

JST\_A181-08US Sequence Listing (Amended).txt

<210> 162  
<211> 25  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence  
  
<400> 162  
ttcaagaaga tggaaggtaa tgatg 25  
  
<210> 163  
<211> 40  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence  
  
<400> 163  
ctggatctgg atctagaact ccgtttgggt ttcgcttaag 40  
  
<210> 164  
<211> 40  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence  
  
<400> 164  
cttaagcgaa acccaaacgg agttctagat ccagatccag 40